

**Abstract**

Communication methods, systems and related communication channel structures, particularly suited to high data rate communication channels, are provided. A first communication  
5 signal is multiplexed with both a second communication signal according to a first multiplexing technique and a third communication signal according to a second multiplexing technique. According to one embodiment, the communication signals are CDM (Code Division Multiplexing) signals, whereas  
10 the first communication technique is TDM (Time Division Multiplexing). In such an embodiment, TDM techniques may be used, for example, to effectively increase the spreading factor for a control channel at high data rates, which are normally associated with low spreading factors.